AIM Promising Practice Webinar:
Strategies to Increase Adolescent Immunization Rates
Results from an educational intervention in Richmond County Georgia

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Disclosures

• Katherine Seib has no financial or commercial disclosures to report
• Natasha Herbert has no financial or commercial disclosures to report
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Centers for Disease Control and Prevention  
Emory University School of Medicine  
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This project is funded through a cooperative agreement with the Centers for Disease Control and Prevention (5U01IIP000413)
Background

- Historically low-income, rural, minority youths have lower vaccination rates
- Four vaccines are recommended for teenagers: Flu, Tdap, Meningococcal (MCV4) and HPV
  - Coverage Rates for teen vaccines lag behind childhood vaccination rates

### 2012 National Vaccine Coverage among young children and teens

<table>
<thead>
<tr>
<th>Vaccine</th>
<th>Very young children</th>
<th>Teens</th>
</tr>
</thead>
<tbody>
<tr>
<td>MMR (1 dose)</td>
<td>91%</td>
<td>74% 73%</td>
</tr>
<tr>
<td>HepB (≥3 doses)</td>
<td>90%</td>
<td>54% 52%</td>
</tr>
<tr>
<td>Polio (≥3 doses)</td>
<td>93%</td>
<td>21% 20%</td>
</tr>
<tr>
<td>Varicella (≥1 dose)</td>
<td>90%</td>
<td>33% 29%</td>
</tr>
<tr>
<td>DTaP (≥4 doses)</td>
<td>83%</td>
<td>HPV Girls 1 dose</td>
</tr>
<tr>
<td>PCV (≥4 doses)</td>
<td>82%</td>
<td>HPV Boys 1 dose</td>
</tr>
<tr>
<td>Hib (full series)</td>
<td>81%</td>
<td>HPV Girls 3 doses</td>
</tr>
<tr>
<td>Tdap</td>
<td>85%</td>
<td>HPV Boys 3 doses</td>
</tr>
<tr>
<td>MCV4</td>
<td>81%</td>
<td>n/a</td>
</tr>
<tr>
<td>HPV Girls 1 dose</td>
<td>n/a</td>
<td>Seasonal Flu 43%</td>
</tr>
<tr>
<td>HPV Boys 1 dose</td>
<td>n/a</td>
<td></td>
</tr>
<tr>
<td>HPV Girls 3 doses</td>
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<td></td>
</tr>
<tr>
<td>HPV Boys 3 doses</td>
<td>n/a</td>
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</tbody>
</table>

<table>
<thead>
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<th>Coverage Rates</th>
<th>Very young children 2012</th>
<th>Teens 2012</th>
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</table>
Study Overview: Enhancing Adolescent Immunization through Parent and Teacher Interventions

- Cluster-randomized controlled trial promoting vaccine acceptance
  - Richmond County Georgia – school district
    - Large county (includes city of Augusta)
  - Eleven (11) schools (6 middle schools and 5 high schools)
    - Arm #1: No Intervention/Standard of Care/Control
      - n=3 schools and 117 parents surveyed
    - Arm #2: Parent Brochure
      - n=4 schools and 209 parents surveyed
    - Arm #3: Parent Brochure + School Curriculum
      - n=4 schools and 360 parents surveyed
  - Randomly sampled parents surveyed annually about
    - Teen vaccines
    - Their teen’s receipt of recommended immunizations
    - Demographic information
VACCINES AREN'T JUST FOR BABIES

VACCINATE YOUR TEEN!

Learn About Vaccines for Teens

See your primary healthcare provider or the Richmond County Health Department for more information and to get vaccinated.

VACCINES AREN'T JUST FOR BABIES

VACCINATE YOUR TEEN!

Sources for more information

The Centers for Disease Control and Prevention
http://www.cdc.gov/vaccines/

National Network for Immunization Information
http://www.immunizationinfo.org

Richmond County Health Department
http://www.ecphd.com
706-721-5900

PeachCare for Kids
http://www.peachcare.org/

Vaccines for Children (VFC)
http://www.cdc.gov/vaccines/programs/vfc
404-657-9635
DID YOU KNOW?

Fact 1 - The Centers for Disease Control and Prevention (CDC) now recommends four vaccines for teens: Tetanus, Diphtheria, and Pertussis (Tdap), Meningococcal (MCV4), Human Papillomavirus (HPV), and Influenza

Fact 2 - Teen vaccines not only help protect them, but also their friends, family, and community

Fact 3 - Teen vaccines may be needed before starting college or a new job

KEEP READING TO LEARN HOW YOU CAN PROTECT YOUR TEEN

MYTHBUSTERS

MYTH: You don’t really need to get vaccinated, especially if you don’t get sick often.

FACT: Even people with good immune systems can get very sick from diseases that vaccines can prevent.

MYTH: I’ve never even heard of these diseases, so they can’t be too common or serious.

FACT: Fortunately, vaccines are doing a really good job of keeping everyone protected. If people stopped getting vaccinated, these serious diseases would be more common!

MYTH: The flu vaccine can give you the flu.

FACT: Some people have mild side effects after they get the flu vaccine (dizziness or a mild fever), but the vaccine can not give you the flu.

MYTH: Vaccines can cause serious side effects.

FACT: All vaccines have gone through a lot of testing and been found to be safe. Serious side effects are extremely rare.

MYTH: Vaccines are too expensive.

FACT: Vaccines for Children (VFC) is a program that provides vaccines at no cost to children, 18 years of age and younger, who might not otherwise be vaccinated because of inability to pay.
**HUMAN PAPILLOMAVIRUS (HPV) VACCINE**

*Human papillomavirus (HPV)* can cause cervical cancer in females and other cancers in males and females or genital warts in both females and males.

**How is it Spread?**
- Sexual intercourse or sexual contact

**DID YOU KNOW?**
- Both boys and girls should be vaccinated against HPV
- Most people have no symptoms of HPV infection
- Cervical cancer is the second leading cause of cancer deaths among women in the world
- The HPV vaccine is one of the few ways to prevent a type of cancer

**What Should I Do?**
Get your teen vaccinated! HPV vaccine is a series of three shots. It is recommended at 11-12 years old or as early as 9 years old. Older teens who haven’t been vaccinated should get the vaccine as soon as possible.

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**INFLuenza VACCINE**

*Influenza (flu)* is a serious disease that can lead to pneumonia and death. It is most common between November and March.

**How is it Spread?**
- Through coughing or sneezing

**DID YOU KNOW?**
- Each year more than 200,000 people in the U.S. are hospitalized from influenza—that is more people than live in Augusta, GA!
- Influenza is a major cause of missed school days
TETANUS, DIPHTHERIA, AND PERTUSSIS (Tdap) VACCINE

**Tetanus** causes painful muscle spasms and tightening of the jaw muscles so the victim cannot open their mouth, swallow, or breathe.

**Diphtheria** causes a severe throat infection that can lead to breathing problems and death.

**Pertussis** (whooping cough) causes severe coughing and vomiting.

**How is it Spread?**
- Tetanus enters the body through cuts, scratches or wounds
- Diphtheria and pertussis are spread through coughing or sneezing

**What Should I Do?**
Get your teen vaccinated! The Tdap vaccine is recommended at 11-12 years of age. Older teens who haven’t been vaccinated should get the vaccine as soon as possible.

**DID YOU KNOW?**
- Unvaccinated adults and teens can spread pertussis to infants, who can get very sick and die

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MENINGOCOCCAL (MCV4) VACCINE

**Meningococcal disease** is a serious illness. Meningitis is an infection of fluid around the brain and spinal cord.

**How is it Spread?**
- Through coughing, kissing, sneezing, and sharing items that touch a person’s mouth

**DID YOU KNOW?**
- The chances of getting meningococcal disease are highest between the ages of 16 to 21
- 10 to 15% of people with meningococcal disease die

**What Should I Do?**
Get your teen vaccinated! The MCV4 vaccine is a **two dose** series recommended to start at 11-12 years old. Older teens who haven’t been vaccinated should get the vaccine as soon as possible. All Georgia colleges require students living in campus housing to document that they have been vaccinated or that they have reviewed information about meningococcal disease.
Curriculum

We designed a science teacher-delivered curriculum for adolescents guided by constructs from the Health Belief Model and Theory of Reasoned Action to measure and improve student knowledge of and attitudes toward vaccines.

<table>
<thead>
<tr>
<th>Curriculum Outline</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Day 1</strong></td>
</tr>
<tr>
<td>1. Pre-test</td>
</tr>
<tr>
<td>2. Sparker question</td>
</tr>
<tr>
<td>a. Why would people want to get vaccinated?</td>
</tr>
<tr>
<td>3. Power Point</td>
</tr>
<tr>
<td>a. What are vaccines?</td>
</tr>
<tr>
<td>b. How do they work?</td>
</tr>
<tr>
<td>c. Are vaccines safe?</td>
</tr>
<tr>
<td>d. Which vaccines are recommended for teens?</td>
</tr>
<tr>
<td>4. Interactive session</td>
</tr>
<tr>
<td>a. Disease spread activity</td>
</tr>
<tr>
<td>5. Interactive session</td>
</tr>
<tr>
<td>a. Car racing game</td>
</tr>
<tr>
<td><strong>Day 2</strong></td>
</tr>
<tr>
<td>1. Sparker questions</td>
</tr>
<tr>
<td>a. How many of you have ever had the flu?</td>
</tr>
<tr>
<td>b. What was your experience like?</td>
</tr>
<tr>
<td>2. Power Point</td>
</tr>
<tr>
<td>a. Vaccine preventable diseases</td>
</tr>
<tr>
<td>i. Tetanus, Diphtheria, and Pertussis</td>
</tr>
<tr>
<td>ii. Meningococcal Disease</td>
</tr>
<tr>
<td>iii. Influenza</td>
</tr>
<tr>
<td>iv. Human Papillomavirus</td>
</tr>
<tr>
<td>3. Post test</td>
</tr>
<tr>
<td>4. Poster Making</td>
</tr>
<tr>
<td>a. Oral Presentations</td>
</tr>
</tbody>
</table>
## Curriculum

### Jeopardy Game

<table>
<thead>
<tr>
<th>Vaccines 101</th>
<th>Vaccine versus Bacteria</th>
<th>Prevention</th>
<th>True or False</th>
<th>How Vaccines Work</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
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<td>50</td>
</tr>
</tbody>
</table>

### Car Racing Game

**Instructions:**

1. Divide into Teams.
2. Each team is asked a question. If they answer correctly, click their team's color button to move their car.
3. Five correct answers will cross the finish line and win the race.
Outcomes

• Randomly sampled parents surveyed
  • Attitudes and knowledge about teen vaccines
  • Recall of their teen’s receipt of recommended immunizations
  • Other demographic information

• Pre & post-tests from adolescent curriculum (knowledge and attitudes)
  • In a follow up focus group we also asked the science teachers who administered the curriculum to take the tests

• Validation information
  • A small group of parents surveyed were asked permission to review their teen’s medical chart to verify vaccine receipt (analysis pending)

• Georgia Registry of Immunization Transactions and Services (GRITS)
  • We have received GRITS records for students who were enrolled in our study schools during the study period (analysis pending)
Demographics: 686 parents interviewed

Parent Enrollee Demographics by Survey Arm, Year Enrolled, and Survey Method

- Arm 1: Control Arm, n=210, 31%
  - Year 1 (2011) baseline, n=117, 17%
  - Year 2 (2012) intervention, n=209, 30%
  - Year 3 (2013) intervention, n=360, 52%
  - Phone, n=358, 52%

- Arm 2: Parent Intervention Arm, n=251, 37%

- Arm 3: Parent and Student Intervention Arm, n=225, 33%
  - Year 2 and 3 only, n=328, 48%

Race/Ethnicity

- Caucasian: 16%
- African American: 75%
- Hispanic: 3%
- Other: 6%

Gender of Adolescent

- Male: 47%
- Female: 53%

Seib, et. al. Unpublished data
Vaccination Opportunities: Closing the Gaps

Vaccine Receipt and Intentions
Social Determinants
Doctor Recommendation
Attitudes about School Located Vaccine Clinics
Attitudes about Vaccine Safety
Parent Reported Adolescent Vaccine Receipt

Seib, et. al.
Unpublished data

Note: 30% reported that their child received all 3 doses of HPV – 40% of girls and 19% of boys.
Social Determinants

Parent reported insurance

- Medicaid: 410 (60%)
- Private Insurance: 233 (34%)
- None: 42 (6%)

HEALTH STATUS

- NO Chronic Illness: 72%
- Asthma: 24%
- Diabetes: 1%
- Sickle Cell Disease: 1%
- Other (eczema, allergies, etc): 4%
### Table 1: Percent receiving teen vaccines by type of insurance (n=685)

<table>
<thead>
<tr>
<th></th>
<th>Medicaid</th>
<th>Private</th>
<th>No Insurance</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Received at least 1 of the 4 teen vaccines</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Overall</td>
<td>93%</td>
<td>91%</td>
<td>71%</td>
<td>&lt;0.0001</td>
</tr>
<tr>
<td>Arm 1 (n=209)</td>
<td>92%</td>
<td>92%</td>
<td>75%</td>
<td>0.2409</td>
</tr>
<tr>
<td>Arm 2 (n=251)</td>
<td>92%</td>
<td>91%</td>
<td>61%</td>
<td>0.0002</td>
</tr>
<tr>
<td>Arm 3 (n=225)</td>
<td>96%</td>
<td>91%</td>
<td>81%</td>
<td>0.0516</td>
</tr>
</tbody>
</table>

| Received individual vaccine                  |          |         |              |         |
| Current flu shot                             | 58%      | 47%     | 36%          | 0.0025  |
| Tdap                                         | 81%      | 85%     | 62%          | 0.0014  |
| MCV4                                         | 60%      | 59%     | 45%          | 0.1952  |
| HPV (at least 1 dose)                        | 51%      | 42%     | 51%          | 0.0667  |

### Table 2: Percent of students receiving teen vaccines by health status (n=686)

<table>
<thead>
<tr>
<th></th>
<th>Chronic Health Problems: none</th>
<th>Chronic Health Problems: at least 1</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Received at least 1 of the 4 teen vaccines</td>
<td></td>
<td></td>
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<tr>
<td>Arm 1 (n=210)</td>
<td>90%</td>
<td>96%</td>
<td>0.1382</td>
</tr>
<tr>
<td>Arm 2 (n=251)</td>
<td>87%</td>
<td>98%</td>
<td>0.0169</td>
</tr>
<tr>
<td>Arm 3 (n=225)</td>
<td>90%</td>
<td>100%</td>
<td>0.0032</td>
</tr>
</tbody>
</table>

| Received individual vaccine                  |          |         |              |         |
| Current flu shot                             | 49%      | 62%     |              | 0.0027  |
| Tdap                                         | 78%      | 90%     |              | 0.0003  |
| MCV4                                         | 54%      | 69%     |              | 0.0004  |
| HPV (at least 1 dose)                        | 47%      | 51%     |              | 0.3321  |
Doctor Recommendation

Impact of Doctor Recommendation on Reported Vaccine Receipt

Doctor Recommended

<table>
<thead>
<tr>
<th>Vaccine</th>
<th>Recommended by Doctor</th>
<th>Not recommended by Doctor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flu</td>
<td>69%</td>
<td></td>
</tr>
<tr>
<td>Tdap</td>
<td>66%</td>
<td></td>
</tr>
<tr>
<td>MCV4</td>
<td>61%</td>
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</tr>
<tr>
<td>HPV</td>
<td>68%</td>
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Received

<table>
<thead>
<tr>
<th>Vaccine</th>
<th>Received Flu</th>
<th>Received Tdap</th>
<th>Received MCV4</th>
<th>Received HPV</th>
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<tbody>
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<tr>
<td>HPV</td>
<td></td>
<td></td>
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</table>
School-Located Vaccine Delivery

Has your child ever received flu vaccine at school?
- Yes, 22%
- No, 78%

Would you allow your child to be vaccinated at school?*
- Yes, 72%
- No, 28%

*for at least 1 of the 4 recommended vaccines

WOULD YOU ALLOW YOUR CHILD TO BE VACCINATED AT SCHOOL IF THE VACCINE WAS OFFERED AT YOUR CHILD'S SCHOOL? (% WHO SAID YES)

- FLU (N=686): 63%
- TDAP (N=685): 64%
- MCV4 (N=684): 62%
- HPV (N=682): 58%
School-Located Vaccine Delivery
Acceptance of SLVC among parents whose adolescent had not been vaccinated but intended to be vaccinated

<table>
<thead>
<tr>
<th>Vaccine</th>
<th>Accept SLVC</th>
<th>Do not accept SLVC</th>
</tr>
</thead>
<tbody>
<tr>
<td>HPV</td>
<td>71%</td>
<td>29%</td>
</tr>
<tr>
<td>MCV4</td>
<td>65%</td>
<td>35%</td>
</tr>
<tr>
<td>TDAP</td>
<td>63%</td>
<td>37%</td>
</tr>
<tr>
<td>FLU</td>
<td>69%</td>
<td>31%</td>
</tr>
</tbody>
</table>

Gargano, et. al. Unpublished data
School Located Vaccine Delivery
Closing the Gap

Potential Coverage of Adolescent Vaccines with School-Located Vaccine Delivery

Actual = those who reported their child receiving the vaccine
Potential = adding those who were planning to receive and were accepting of school located vaccine delivery to actual coverage
Parent report:
My child has received.....

- All 4 teen vaccines, 28%
- 3 teen vaccines, 32%
- 2 teen vaccines, 21%
- 1 teen vaccine, 13%
- None of the teen vaccines, 5%
Disease susceptibility and vaccine safety

Percent of parents reporting they believe these statements to be true

- Do you believe your child’s routine vaccinations are up-to-date? 98%
- Immunizations are always proven safe before they are approved for use. 80%
- My child could get sick from the vaccine itself. 60%
- Pre-teens and teens should only be immunized against serious diseases. 37%
- I would get my child vaccinated only if the vaccine was required for school entry. 31%
- My child’s immune system could be weakened by too many immunizations. 28%

My child’s immune system could be weakened by too many immunizations.
Disease susceptibility and vaccine safety

Received vaccine by those who think vaccines are safe versus those who think they are not safe

- Received Tdap: Safe 82%, Not Safe 77%
- Received MCV4: Safe 62%, Not Safe 45%
- Received Flu: Safe 60%, Not Safe 56%
- Received HPV (ever, 1 dose): Safe 44%, Not Safe 49%
Speaker Transition

• Natasha Herbert
Results

Knowledge and Attitudes
## Health Belief Model Constructs and Social Norms Used to Inform Parent Survey

<table>
<thead>
<tr>
<th>Benefits</th>
<th>Barriers</th>
<th>Susceptibility</th>
<th>Severity</th>
<th>Social Norms</th>
</tr>
</thead>
<tbody>
<tr>
<td>Giving the flu vaccine to children will decrease their time out of school</td>
<td>My child could get sick from the flu vaccine</td>
<td>My child is not very likely to get the flu</td>
<td>Influenza is a serious illness</td>
<td>Most parents I know take their children for the flu vaccine</td>
</tr>
<tr>
<td>By not getting the Tdap vaccine your child is putting others at risk for disease</td>
<td>My child’s immune system could be weakened by too many immunizations</td>
<td>Compared with other children my child’s age, my child is more likely to get meningococcal disease</td>
<td>Whooping cough is a serious illness</td>
<td>Most people important to me think I would give my child the Tdap vaccine</td>
</tr>
</tbody>
</table>
Vaccine Attitudes and Knowledge - Flu

- My child is very likely to get the flu: 37%
- A healthy 40-year old is more likely to get the flu than my child: 39%
- Compared to other children's age, my child is more likely to get the flu: 24%
- Giving the flu vaccine to children will decrease their parents' time lost from work: 59%
- Giving the flu vaccine to children decreased their time out of school: 67%
- Most parents I know take their children for flu vaccine: 66%
- Most people important to me think I should give my child a flu vaccine: 70%
- Flu vaccine is very effective at preventing the flu: 79%
- Flu is a serious illness: 94%
- Children should be vaccinated against the flu: 87%

Percent who said "true"
Vaccine Attitudes and Knowledge - Flu

- Children should be vaccinated against the flu
- Flu is a serious illness
- Flu vaccine is very effective at preventing the flu
- Most people important to me think I should give my child a flu vaccine
- Most parents I know take their children for flu vaccine
- Giving the flu vaccine to children decreased their time out of school
- Giving the flu vaccine to children will decrease their parents' time lost from work
- Compared to other children my child's age, my child is more likely to get the flu
- A healthy 40-year old is more likely to get the flu than my child
- My child is very likely to get the flu

% of parents who responded true AND reported their child received flu vaccine last fall
% of parents who responded true (n=686)
## Vaccine Knowledge and Attitudes-Flu

<table>
<thead>
<tr>
<th>Flu attitude and belief score</th>
<th>% of all participating parents</th>
<th>% of parents that reported their child received a flu vaccine last fall*</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0.7%</td>
<td>0%</td>
</tr>
<tr>
<td>1</td>
<td>2.1%</td>
<td>0.8%</td>
</tr>
<tr>
<td>2</td>
<td>4.1%</td>
<td>1.0%</td>
</tr>
<tr>
<td>3</td>
<td>6.3%</td>
<td>3.1%</td>
</tr>
<tr>
<td>4</td>
<td>6.9%</td>
<td>5.4%</td>
</tr>
<tr>
<td>5</td>
<td>11.0%</td>
<td>10.2%</td>
</tr>
<tr>
<td>6</td>
<td>17.3%</td>
<td>18.1%</td>
</tr>
<tr>
<td>7</td>
<td>20.8%</td>
<td>23.7%</td>
</tr>
<tr>
<td>8</td>
<td>19.6%</td>
<td>24.8%</td>
</tr>
<tr>
<td>9</td>
<td>8.7%</td>
<td>10.6%</td>
</tr>
<tr>
<td>10</td>
<td>2.5%</td>
<td>2.5%</td>
</tr>
<tr>
<td>Total</td>
<td>100 (n=682)</td>
<td>100 (n=682)</td>
</tr>
</tbody>
</table>
Vaccine Attitudes and Knowledge- TdaP

- Children should be vaccinated against pertussis (whooping cough)
- Whooping cough is a serious illness
- Most people important to me think I should give my child a TdaP vaccine
- Most of the parents I know take their children for TdaP vaccine.
- My child is not very likely to get pertussis (whooping cough)
- My child is not very likely to get diphtheria
- My child is not very likely to get tetanus
- By not getting the TdaP vaccine, my child is putting others at risk for disease

% of parents who responded true AND reported their child received Tdap
% of parents who responded true (n=686)
Vaccine Attitudes and Knowledge - MCV4

- Meningococcal disease is a very serious disease
- Children should be vaccinated against meningococcal disease
- The MCV4 vaccine is very effective at preventing meningococcal disease
- Most people important to me think I should give my child a MCV4 vaccine
- Compared to other children my child’s age, my child is more likely to get meningococcal disease
- My child is very likely to get the meningococcal disease

% of parents who responded true AND reported their child received MCV4  % of parents who responded true (n=686)
Most of the parents I know take their children for HPV vaccine.

My child is very likely to get HPV.

Most people important to me think I should give my child the HPV vaccine.

The HPV infection can cause a serious disease.

The HPV vaccine is very effective at preventing cervical cancer.

Children should be vaccinated against HPV.
## Vaccine Attitudes and Knowledge-HPV

<table>
<thead>
<tr>
<th>HPV attitude and belief score</th>
<th>% of all participating parents (n=686)</th>
<th>% of parents who reported their child received initial HPV dose</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>3.5%</td>
<td>0%</td>
</tr>
<tr>
<td>1</td>
<td>5.4%</td>
<td>0.6%</td>
</tr>
<tr>
<td>2</td>
<td>8.2%</td>
<td>3.3%</td>
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<tr>
<td>3</td>
<td>21.1%</td>
<td>14.2%</td>
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<td>20.3%</td>
<td>24.5%</td>
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<tr>
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<td>28.0%</td>
<td>38.0%</td>
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<tr>
<td>6</td>
<td>13.3%</td>
<td>20.05%</td>
</tr>
<tr>
<td>Total</td>
<td>100</td>
<td>100 (n=330)</td>
</tr>
</tbody>
</table>
Results

Sources of Information
Sources of Information-Flu and HPV

• Asked after 2\textsuperscript{nd} intervention year
• N=360
• 7 sources presented:
  • Doctor or medical professional
  • Family or friends
  • Advertisements from drug company
  • Internet
  • Television
  • Radio
  • Newspaper or magazine article
• Media index created ranging from 0-7 sources
  • 0-2 sources: low number of sources
  • 3-7 sources: high number of sources
Sources of Information

**Flu**
- Top 3 sources:
  - 1. Doctor/medical professional - 95%
  - 2. Family member/friend - 80.6%
  - 3. Television - 77.2%
- Parents reporting >3 sources of information about flu were 2 times more likely to report their child previously received a flu vaccine

**HPV**
- Top 3 sources:
  - 1. Doctor/medical professional - 79.8%
  - 2. Television - 74.4%
  - 3. Advertisement from drug company - 67.4%
- Parents reporting >3 sources of information about HPV were 3 times more likely to initiate HPV vaccine
Lessons learned with implementation & Conclusions

Successes & Challenges
Lessons Learned

• Successes
  • Research: Insight into parental attitudes and knowledge of adolescent vaccines
  • Practice: Developed educational materials with community buy in
    • Conducted focus groups and meetings with parents, students, teachers, schools and school boards
    • Had a local health department staff member working with us to facilitate local activities and relationships
  • Incentives are important for recruitment
    • We offered them to parents enrolled in survey, and for parents, students and teachers who participated in focus groups

• Challenges
  • Research: Low recruitment of parents
    • Adding online web survey option helped increase enrollment
  • Practice: aligning curriculum with existing state-level educational standards

• Future Directions
  • Finalize evaluation of intervention
  • Education Toolkit
    • Packaging of all educational materials used in the intervention
  • School-located vaccine clinic policy implications
    • Large potential for closing gaps
  • Developing two-pronged interventions that engage providers, parents and students
  • Results show parental attitudes are significantly associated with vaccination
Conclusions (1)

• There are a substantial number of parents who intend to vaccinate their adolescent but don’t
  • Need to close that gap
  • School located vaccine clinics may be able to play an important role
  • Provider recommendation is still a VERY important factor in uptake

• A communication priority for public health
  • Making sure uninsured know they can get vaccines for free (and how)

• Some myths about vaccine safety persist
  • However, many parents are vaccinating despite these beliefs
  • Investigate and leverage this cognitive dissonance
Conclusions (2)

• Improve parental attitudes and knowledge
  • Opportunities to improve parental attitudes and knowledge, which are associated with vaccine uptake

• Health messaging
  • Understand what type of vaccine messaging is important and resonant with parents AND who health messaging should come from
Thank you

• We are grateful for our collaborators at the Health Department, Georgia Regents University, and CDC for their guidance and help with this project

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  • Richmond County School Administrators and Science Teachers
  • Richmond County Parents and Students

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